What is claimed is:

1. A method for discovery of network topology in networks having network routers with unnumbered interfaces, the method comprising:

obtaining the configuration of all routers in the network;

for a particular router, identifying an unnumbered interface;

for the unnumbered interface of a particular router, identifying connected routers on the destination networks reachable through the unnumbered interface and adding those connected routers to a connected router list for the unnumbered interface;

for the connected routers in the connected router list, determining which of the connected routers is an immediate neighbor to the particular router having the unnumbered interface;

determining the connected interface of the immediate neighbor which connects to the unnumbered interface of the particular router; and

identifying an unnumbered link between the unnumbered interface and the connected interface.

2. The method as recited in claim 1, wherein the operation of determining which connected router is an immediate neighbor is conducted by:

checking if the connected router is between the particular router and another router in the connected router list.

3. The method as recited in claim 2, wherein the checking operation is conducted by determining whether the connected router connects to the unnumbered interface and to all other connected routers over different interfaces.

4. The method as recited in claim 2, wherein the checking operation utilizes values in a route table for each connected router, wherein the values comprise the interface index and the route destination.

5. The method as recited in claim 1, further comprising:

confirming that the immediate neighbor connects to the unnumbered interface via a network route or a default route over an unnumbered interface.

6. The method as recited in claim 1, further comprising:

storing the unnumbered link in a connectivity list; and

periodically updating the connectivity list.

7. The method as recited in claim 6, wherein the connectivity list is periodically updated by repeating the operations and determining whether the unnumbered link was identified in the current or a previous cycle.

8. A method for automated discovery of network topology in networks having network routing devices with unnumbered interfaces, the method comprising:

for a routing device in a network, identifying an unnumbered interface of the routing device;

identifying connected routing devices connected to the unnumbered interface;

determining which of the connected routing devices is an immediate neighbor to the routing device having the unnumbered interface;

identifying an unnumbered link between the unnumbered interface and the corresponding interface of the immediate neighbor; and

indicating the unnumbered link in network topology data.

9. The method as recited in claim 8, wherein the operation of determining the immediate neighbor is conducted by determining which connected routing device connects to the unnumbered interface and to all other connected routing devices over different interfaces.

10. The method as recited in claim 9, wherein the determining operation utilizes values in a route table for each connected router, the values comprising the interface index and the route destination.

11. The method as recited in claim 8, further comprising:

confirming that the immediate neighbor connects to the unnumbered interface via a network route or a default route.

12. A method for automated discovery of network topology in networks having network routing devices with unnumbered links, the method comprising:

identifying an unnumbered interface of a routing device in a network;

using route data to identify connected routing devices connected to the unnumbered interface;

for every connected routing device, comparing the interface connections of the connected routing device; and

using the comparisons to identify an unnumbered link between the unnumbered interface and a corresponding interface of one of the connected routing devices.

13. The method as recited in claim 12, wherein the comparison utilizes route destination and corresponding interface data.

14. A computer implemented method for automated discovery of network topology in networks having network routing devices with unnumbered links, the method utilizing executable instructions and comprising:

identifying an unnumbered interface of a routing device in a network;

determining the immediate neighbor to the unnumbered interface using route table data of the routing device and other routing devices in the network; and

identifying an unnumbered link between the unnumbered interface and a corresponding interface of the immediate neighbor.

15. The method as recited in claim 14, further comprising:

using route table data to confirm that the immediate neighbor has a network route or a default route to the unnumbered interface over the corresponding interface.

16. The method as recited in claim 14, further comprising:

storing the unnumbered link in a topology database indicative of the network topology; and

repeating the method in periodic cycles such that changes in topology are detected and identified.

17. A computer network, comprising:

at least two network devices connected to one another, one device having an unnumbered interface connected to an unnumbered interface of the other device thereby defining a link that is unnumbered;

network management information data indicating the interface assignments of the two network devices; and

a network management system configured to access the network management information data, to confirm that the network devices are immediate neighbors and connect to one another via unnumbered interfaces, to assign an identifier of the unnumbered link, and to present that identifier in network topology data.

18. The network as recited in claim 17, further comprising three or more network devices, wherein the network management system is configured to determine the connection of the unnumbered interfaces by comparing the interface connections of the network devices.

19. The network as recited in claim 17, wherein the network devices comprise routing devices and wherein the network management system is configured to identify all routing devices connected to each unnumbered interface of a routing device.

20. The network as recited in claim 17, wherein the routing devices comprise routers.

21. A computer readable medium having stored thereon data structures for use in automated discovery of unnumbered links in a network topology, the data structures comprising:

an interface data structure representing an interface of a first routing device;

a connected router data structure identifying other routing devices reachable over an interface of the first routing device; and

an unnumbered connectivity data structure identifying an unnumbered link between an interface of the first routing device and an interface of another routing device identified in the connected router data structure.

22. The computer readable medium as recited in claim 21, further comprising:

a connectivity node data structure identifying a list of unnumbered links; and

a router data structure identifying information regarding the first routing device.